

ABSTRACT

A photodetector is formed in a CMOS circuit using a junction field-effect transistor (JFET). The JFET/CMOS photodetector can be used to create an active pixel sensor for a CMOS digital imager, performing both photodetection and electrical signal amplification, allowing higher fill factors than with conventional APS imagers. A standard CMOS fabrication process is augmented with a small number of steps to integrate the JFET within the pixel, allowing the use of conventional CMOS fabrication plants.

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